AQuery++ Architechure

Queries, Commands, UDFs,
User Module Declaration

User Modules

UI (Python)

Prompt/IO
    Compiler Frontend
    Compiler Backend

AQuery SDK
Provides definition for AQuery
Data Structures
Session manager for session
based memory menagement

Receive Command

Generate and Compile

Return results

Inspected and Compiled
by System Admin

Database Server (C++)
Stores the data columns
Interact with UI.
Load/execute snippets that
carries out the query.
Garbage collection.
Threadpool to support multiple
standing queries.
Trigger management.

Linked
by

Static Library (C++)
Basic utilities and typing
Provides vector representation
and operations

Linked
by

Compiled User Module
Contains functions written
by the user in other
lower level languages.

Standard SQL

Linked
by

MonetDB Embadded
Execute Standard SQL

pass result

Dynamic Code Snippet (C++)
Generated dynamically by
the Compiler Backend.
Linked with Static Library
Loaded/executed by server
to handle AQuery extension
in the query and do
post-processing.

Loaded and called in

Stored in table

Query Results

Output (to console/screen)